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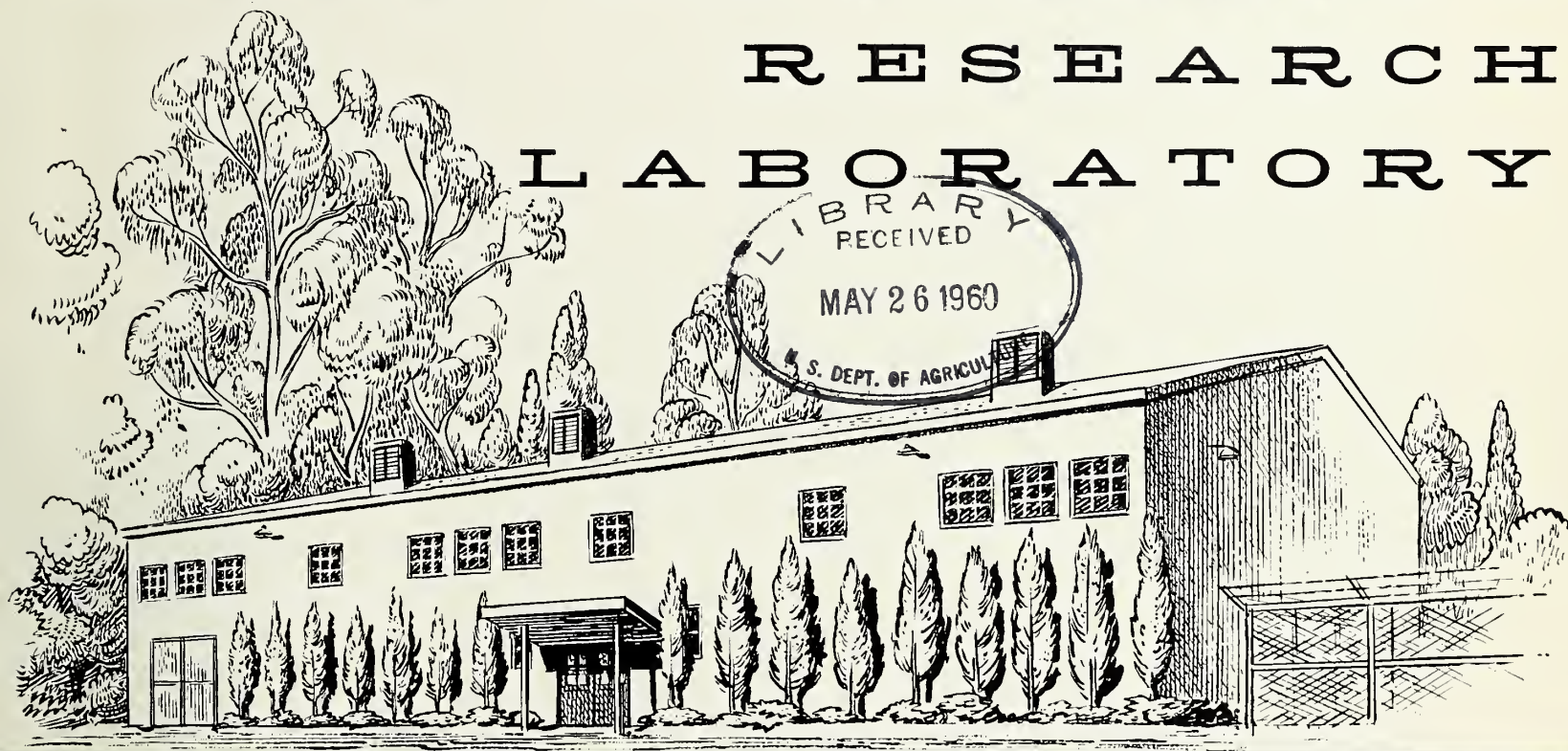
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# WOOL PROCESSING RESEARCH LABORATORY



UNITED STATES DEPARTMENT OF AGRICULTURE  
ALBANY, CALIFORNIA

UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Research Service  
Washington, D. C.

B. T. Shaw

Administrator

WESTERN UTILIZATION RESEARCH AND DEVELOPMENT DIVISION  
ALBANY 10, CALIFORNIA

M. J. Copley  
Director

H. P. Lundgren, Chief  
Wool and Mohair Laboratory

In 1938, the Agricultural Adjustment Act provided for the establishment of utilization research laboratories in each of the four major farm producing areas of the United States. The Wool Processing Research Laboratory is a part of the Wool and Mohair Laboratory, located at the Western Regional Research Laboratory, headquarters of the Western Utilization Research and Development Division of the Agricultural Research Service, at Albany, California. This new facility was constructed and equipped in 1958 and 1959 and dedicated on November 2, 1959.

The Wool Processing Research Laboratory  
Western Utilization Research and Development Division  
Agricultural Research Service  
United States Department of Agriculture

DEDICATION PROGRAM

November 2, 1959

11:30 A. M.

Presiding: John H. Breckenridge,  
Chairman of the Sheep and Wool  
Research and Marketing Advisory  
Committee, USDA

Luncheon in the New Laboratory

Welcome

M. R. Clarkson, Associate Administrator,  
Agricultural Research Service,  
United States Department of Agriculture

Greetings from the Wool Industry

Don Clyde, President, American Sheep  
Producers' Council  
Edwin Wilkinson, President, National  
Association of Wool Manufacturers  
J. Kenneth Sexton, Chairman of the  
Board, The Wool Bureau, Inc.  
Harold Josendal, President, National  
Wool Growers Association

Dedication Address

J. Earl Coke, Vice President, Bank  
of America

Tours of the Wool Processing Research Laboratory

M. J. Copley, Director

H. P. Lundgren, Chief, Wool  
and Mohair Laboratory

Western Utilization Research and Development Division

800 Buchanan St.  
Albany 10, Calif.





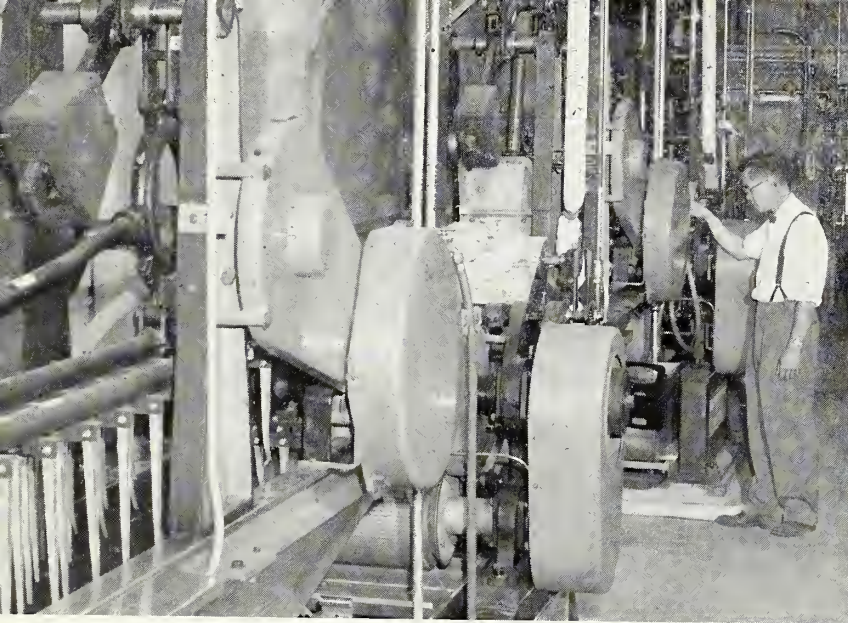
## WOOL UTILIZATION RESEARCH

Until recent years, wool has been unchallenged as a unique fiber from which high-quality fabrics can be woven to meet a wide variety of specific needs. Fine fabrics made of wool possess an unequaled combination of texture, drape, freedom from wrinkling, and resistance to burning. In addition, wool exhibits absorption of moisture that is unapproached by synthetic fibers. Wool, however, is steadily facing increasing competition from synthetic fibers whose special properties make possible shrink-resistant quicker-drying fabrics. To meet this competition it is necessary to develop ways of imparting some new properties to wool without sacrifice of its desirable natural characteristics.

As a result of basic research initiated in 1947, the Wool and Mohair Laboratory has made significant progress in the development of new chemical treatments that make possible soft all-wool fabrics which are machine-washable. Research continues on chemical treatments to impart other desired properties to wool and mohair, such as greater resistance to wear, soiling, and yellowing.

The most promising treatments will be investigated in the new Wool Processing Laboratory, where information will be developed for practical use by the wool textile industry. The Wool Processing Laboratory provides the facilities needed for adapting discoveries to commercial application.

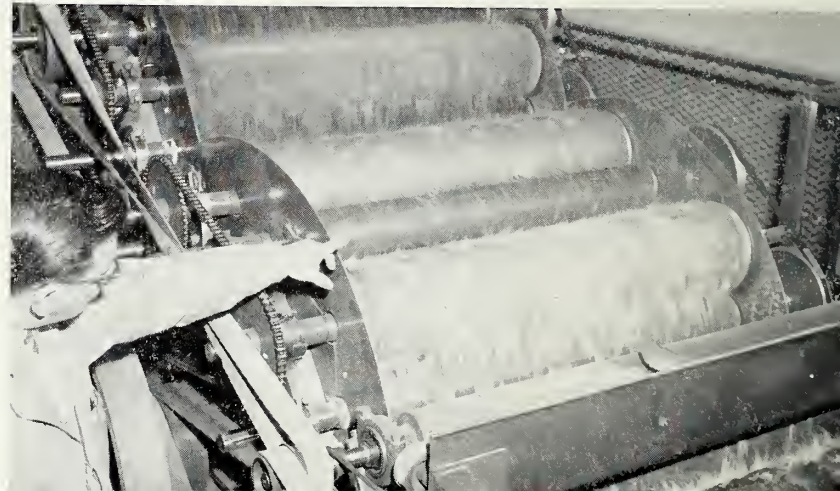
Close cooperation is maintained in this research with all branches of the wool industry and with various State and Federal agencies.



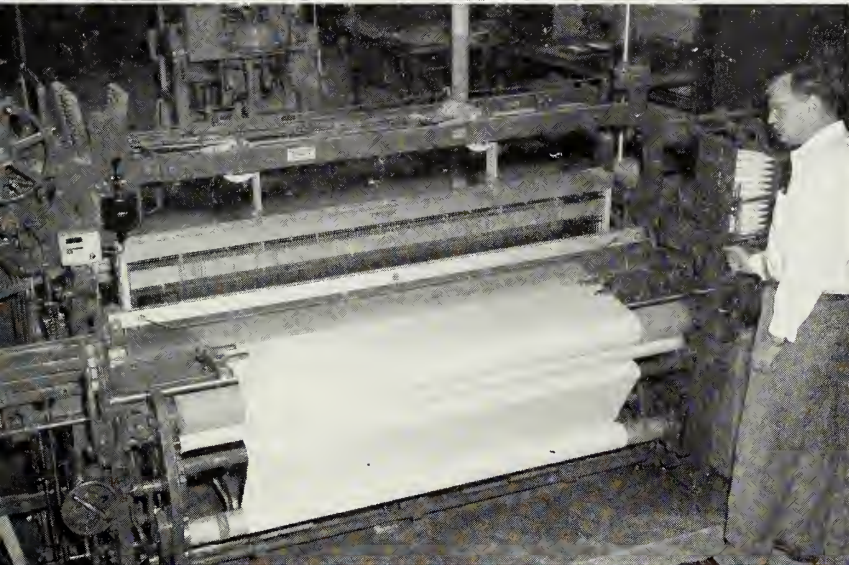
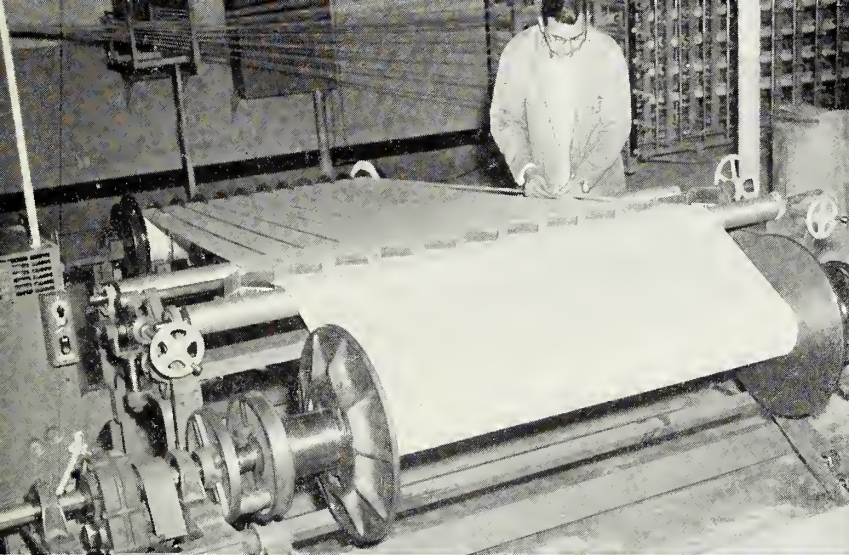
The Wool Processing Laboratory has commercial equipment with which all steps involved in converting raw wool into finished worsted fabric can be studied.

Processing of raw wool starts with scouring, an operation in which grease and dirt are removed. Significant basic contributions have already been made by the staff in the field of wool scouring and treatment of scouring wastes.

Wool enters the carding machine in a tangled, matted, and burry condition. The wire-covered surfaces of the rollers separate the fibers, and embedded vegetable matter drops out. The wool fibers are delivered in a loose, continuous strand or sliver.

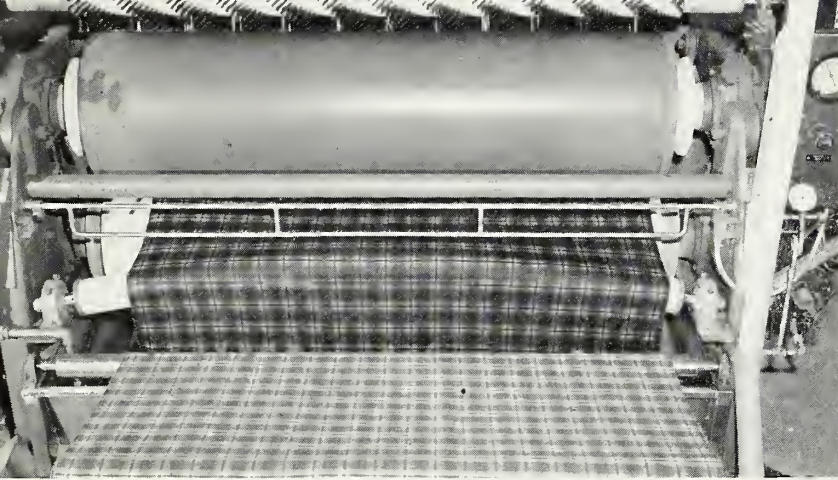






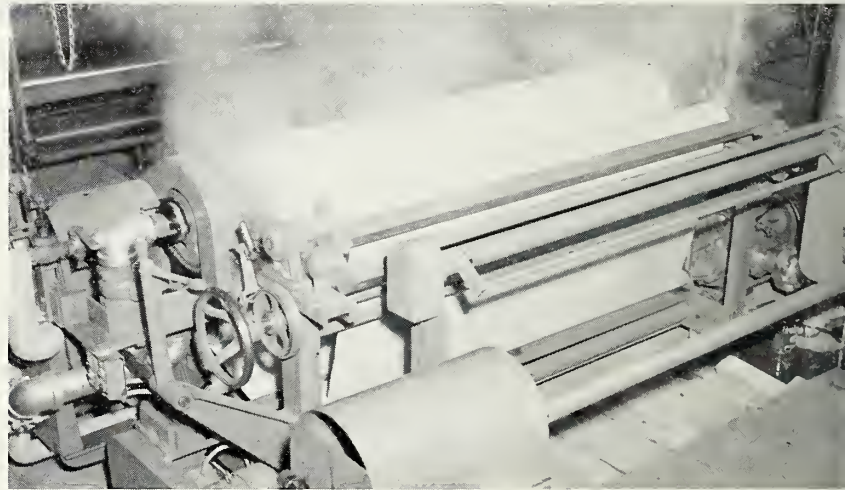
Following carding, the wool is subjected to gilling, which aligns and blends the fibers, and to combing, which removes the short fibers. Next, through roving and spinning, the strand of fibers is gently and uniformly attenuated and twisted to form a yarn. Subsequent plying, winding, and warping operations prepare the yarn for eventual weaving.

Research on the mechanical processes involved in transforming wool fibers to fabrics will be directed toward new and improved products.

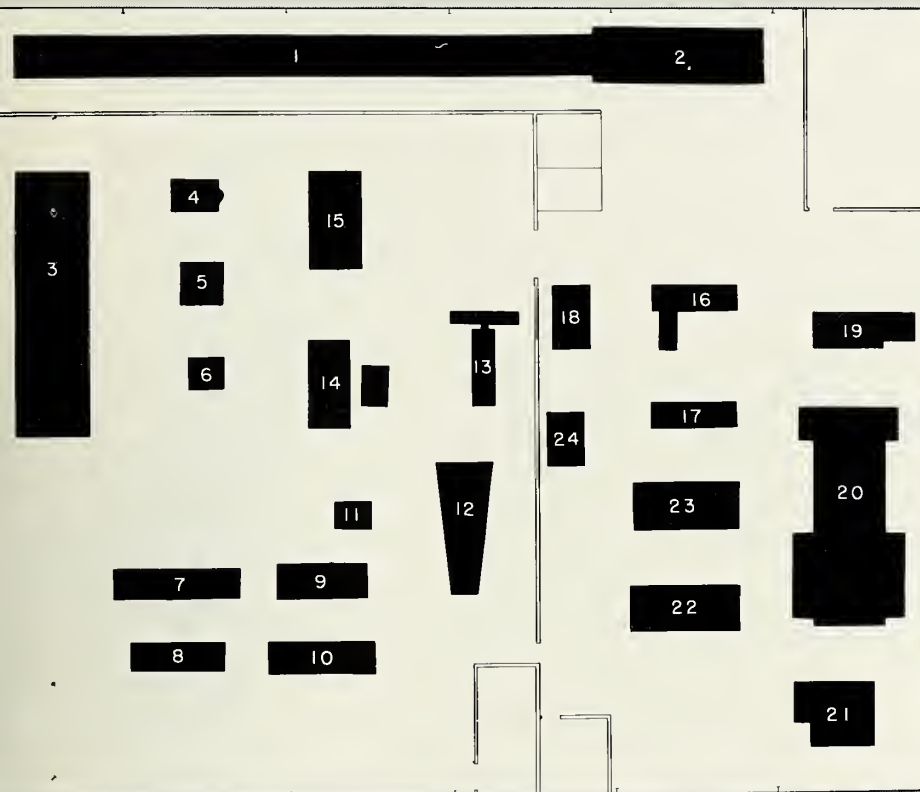


For research on finishing of wool fabrics, the Wool Processing Laboratory is equipped to handle experimental cloth up to full commercial width.

Laboratory research has developed promising chemical treatments for making wool durably resistant to shrinking, fuzzing, and pilling. These and other new treatments are being evaluated in the Wool Processing Laboratory with its facilities for integrated studies of chemical finishing and dyeing of wool fabrics.



In all steps of worsted fabric manufacture, the Wool Processing Research Laboratory bridges the gap between initial physical and chemical investigations and eventual textile mill operations.



## FLOOR PLAN OF THE NEW LABORATORY

### SCOURING

1. Raw Wool Scouring Train
2. Raw Stock Dryer

### YARN AND FABRIC MANUFACTURE

3. Double Cylinder Worsted Card
4. Gill Reducer With Autoleveller
5. Rectilinear Comb
6. Pin Drafter
7. Roving Frame
8. Spinning Frame
9. Winding Frame
10. Twisting Frame
11. Fill Winding Frame
12. Creel
13. Sectional Slasher and Warper
14. Rebeamer
15. Loom

### FINISHING

16. Combination Fulling Mill, Dolly Washer and Dry Mill
17. Crabbing Machine
18. Dye Beck
19. Padder
20. Pin Tenter Dryer
21. Shear
22. Press
23. Semidecating Machine
24. Package Dyeing Machine







